



HOSPITAL SEISMIC SAFETY

Office of Statewide Health Planning & Development

Issue 7 | March 2009

California state law requires hospitals to evaluate their facilities, develop plans to meet seismic standards and ensure that their buildings are seismically sound.

This bulletin shares the latest news on OSHPD's partnership with the state's 515 acute care hospitals working to meet seismic safety deadlines. Also included are recent items that may be of interest to those involved in hospital construction, planning and design.

To contact OSHPD about this bulletin, call (916) 326-3606.

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OSHPD DELIVERS WHITE PAPER ON PHASED PLAN REVIEW

The Office of Statewide Health Planning and Development's (OSHPD) Facilities Development Division's (FDD) Phased Plan Review (PPR) engages the review process at its earliest stages. Phased plan review goals facilitate hospital design, review, approval and construction efficiently and in a timely manner, while achieving code compliance.

Early FDD staff involvement will help minimize major code deficiencies before they become part of the design, reduce back checks, decrease review times and result in an earlier approval and permit for the initial phase of the project.

Projects may be submitted to FDD in increments allowing for the construction of building to commence while other portions of the work are still under design or review. The builder may still be coordinating work and the design team may still be resolving plan review comments while work is progressing at the project site. This fast tracking process requires a well coordinated and balanced effort by all teams, including the FDD field team.

While Phased Plan Review (PPR) requires a greater commitment of time and effort during the early phases, expectations are that these efforts will result in reduced overall time for project approval. A successful PPR requires the owner to establish a point in time in which design changes will no longer be allowed. The earlier in the process this occurs, the more effective and efficient the process will be. The following suggestions are offered to assist owners in giving early design approvals that will remain unchanged throughout the process:

- Designer to prepare "owner sign-off" floor plans that show footprints of all furniture and equipment that takes up either floor or counter space. This plan allows for proper placement of electrical outlets.
- Show scale and square footage on room types to ensure size conformity to the approved space program.
- Owner should have rooms that are mocked up full size and reviewed by the appropriate user groups for functionality.
- Conduct review sessions with all appropriate departments during all design phases.
- Early in the design phase, ensure that the central plant has sufficient capacity to support the demands generated by the increased square footage.
- Send each department revised plans as changes occur during each design phase.

While Phased Plan Review is not suitable for all construction projects it remains an option as long as teams are open for collaboration and continuing communication. These efforts can facilitate hospital design, review, approval and construction efficiently and in a timely manner while achieving code compliance.

For details on Phased Plan Review go to http://www.oshpd.ca.gov/FDD/Plan_Review/Documents/PPR_White_Paper_final_08-19-08.pdf

DEADLINES FOR SEISMIC SAFETY EXTENSIONS FAST APPROACHING

2020 SEISMIC SAFETY EXTENSION

This deadline provides city or county owned hospitals the opportunity to receive an extension from the 2013 deadlines to 2020, provided they rebuild the facility. Approximately 40 California hospitals have requested the 2020 extension.

Extension Deadline: June 30, 2009

HAZUS

HAZUS is a state-of-the-art technology allowing OSHPD to reexamine buildings designated Structural Performance Category 1 (SPC-1) those considered in greatest danger of collapse. California hospitals have submitted approximately 250 buildings for HAZUS reassessment with more than 130 moving into the SPC-2 category. These SPC-2 buildings have until January 1, 2030 to meet seismic compliance requirements.

Extension Deadline: July 1, 2009

For detailed information on the various seismic safety extensions go to <http://www.oshpd.ca.gov/fdd/sb1953/index.html>



HOSPITAL SEISMIC SAFETY

Ombudsman Line

If you have questions, unresolved issues or complaints about OSHPD's Facilities Development Division (FDD), **call the Ombudsman at (916) 326-3608.**

The line is available 24/7. If you have any questions, leave a voice message. Your call will be returned within two to three working days or as soon as possible. You may also e-mail your questions to: **Ombudsman@oshpd.ca.gov**.

This line is not intended to handle specific questions regarding code interpretation or routine construction. These questions should be directed to OSHPD's plan review or field personnel.

LA Office

The Southern California office of FDD is located in the Metropolitan Water District Building in downtown Los Angeles, adjacent to the historic Union Station and within minutes of the region's transportation hubs such as Amtrak, Metro Red Line (subway) and MTA bus networks. Driving directions and parking in the vicinity may be found at **www.mwdh2o.com/mwdh2o/pages/about/union_station_parking_map.pdf**.

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OSHPD & UNIVERSITY OF CALIFORNIA IRVINE (UCI): AN UNPRECEDENTED CLOSE OUT!

By: Pat Nemeth, UCI (University of California, Irvine), Design & Construction Services, Director Hospital Operations

Design-build is a construction project delivery system where, in contrast to “design-bid-build” (or “design-tender”), the design and construction aspects are contracted for with a single entity known as the design-builder or design-build contractor.

As the first complete Design Build hospital in California, the UCI University Hospital has broken many construction “myths.” Here are just a few:

- Design Build doesn't work for hospitals. **Wrong!**
- Permitting takes forever with OSHPD. **Wrong!**
- OSHPD field officials over-ride the permitted plans, causing time delays and cost over runs. **Wrong!**
- And finally, it takes forever to close out a job. **Wrong!**

This article chronicles an amazing story of an extremely well orchestrated three week final inspection campaign to close out UCI's new hospital.

The planning to close out the hospital started almost a year before OSHPD's final inspections at the project site. In November 2007, the Hensel Phelps Design Build Team committed to UCI that they would finish the construction of the new hospital four months ahead of schedule. This was the first unprecedented moment in the story of the close out of this job.

Shortly after, Rebekah Gladson (Associate Vice Chancellor, UCI) and Wayne Lindholm (Vice President, Hensel Phelps) were sitting in the office of John Gillengerten (Deputy Director, Facilities Division) planning the schedule and the resources to close out the job. John scheduled a meeting at the job site in February to review the close out requirements and ensure coordination of the overall team. Detailed check lists were developed and tied into the critical path for the job. Paul Coleman (Dep. Division Chief), Tom Crowder Regional Compliance Officer (RCO), Gary Dunger Chief Fire and Life Safety Officer (FLSO), Lloyd Dick Area Compliance Officer (ACO), Dr. Li Design Structural Engineer (DSE), Jim Franklin (FLSO), Suzanne Wilton Regional Supervisor, Ted Teshima

(Sr. Architect) met with UCI, HOK*, HP** and all the major sub-contractors to review the overall plan.

Between February and August work proceeded diligently at the site. One major hiccup occurred in June, when problems were identified with the fire alarm panels. Due to changes made after the original permit, the installed panels were under sized. The sub-contractor quickly responded by manufacturing all new panels and within a month the problem was fixed. Yet the real cost of the month was the havoc it caused on the overall schedule for commissioning the building. Crews for testing the fire alarm system and balancing the building began working round the clock, six days a week to catch up and stay on schedule. Now the story has a fast forward to August and the final count down.

The schedule agreed to with OSHPD called for an intense commitment of resources, every day for three weeks straight to accomplish all final inspections, observations and the review of final reports. In order to accomplish this unprecedented full court assault, many members of OSHPD staff agreed to modify their schedules to make this work. Both the ACO and the FLSO went from one day a week at the job, to two days a week at the job. The DSE sustained his weekly schedule of one day a week to help with last minute work to reinforce road crossings above a utility tunnel serving the new hospital. The Chief FLSO pledged the resources of the Fire Academy to staff the job every day for three weeks running with six Fire Marshals.

UCI also stepped up their commitment of resources. Every available Inspector of Record (IOR) from the main campus was re-deployed to the Medical Campus to help during the last month. All told, UCI had eleven IORs deployed on the site in August. Work was inspected round the clock and on weekends. Close to 6,000 inspections were performed by the UCI team prior to the final count down. Bob Fritch, Director of Construction worked hard to ensure a final finished product awaited the OSHPD team. But when work had to be reorganized to accommodate last minute corrections, OSHPD was more than flexible.

“We couldn't be more pleased with the performance of OSHPD!” – Bob Fritch

The end result was amazing. Each day all of the IORs and OSHPD officials would convene to review the schedule for the day, break into teams and conduct the critical commissioning testing of the various fire protection and healthcare systems. Each evening



crews worked to correct the comments from the prior day. The RCO and the ACO were followed by a cart, equipped to correct small items on the spot.

Tom Crowder worked side by side with Lloyd Dick to help resolve final issues in the field.

“We’re out here doing our inspections and observations as we always do. What’s different is the effort by the Owner, the Architect and the Contractor ... all working together to make it happen.” - Tom Crowder

The Fire Academy staff helped augment Jim Franklin (FLSO) for his final checks on the extremely complex integrated fire protection systems. Gary Dunger



Three Cheers for OSHPD and the Inspection Team!

Starting from the left: Dr. Haoping Li (DSE), Gary Dunger (Chief FLISO), Pam O’Brien (Fire Marshal), Albert Hernandez (Fire Marshal), Steiner Sire (UCI Lead IOR), Jonathan Cook (Fire Marshal), Keith Lee (Fire Marshal), George Granell (UCI IOR), Nanci Timmins (Fire Marshal), John McCowan (UCI IOR), Chuck Blumer (UCI IOR), John Kronkite (UCI IOR), Bob Fritch (UCI Dir. Construction), Shawn Foley (Fire Marshal), Clint Squire (HP Op. Mgr.), Tom Crowder (RCO), Pat Nemeth (UCI Dir. Hospital), Darren Chatmen (HP Sup.), John Scharf (UCI OSHPD Expeditor), Rob Brienza (HP Field Eng.), Scott Schilling (HP Sup.), Mike Jazminski (UCI IOR), Dan Taylor (UCI IOR), Rich De Lacey (HP Sup.), Eddie Nunez (UCI IOR), Ken Stanfield (UCI IOR), Chuck Rinkovsky (UCI IOR)

used the opportunity for a great on-site training experience. Each day he held short lessons in the field. One example was explaining the difference of “residual pressure and static pressure” and how each affects pressure reducing valves in stand pipe systems.

“It has been a pleasure to be part of a project that truly epitomizes the concept of Partnering. On many projects, our role as a regulatory agency results in adversarial relationships. The UCI Hospital is a success in no small part due to the efforts put forth by Hensel Phelps and their sub-contractors, with the support and guidance of UCI.” - Gary Dunger

Unprecedented great things happen when good people plan together, work together and are committed to success. The new UCI University Hospital accomplished a close out in three weeks! This new 191 bed hospital, with close to half a million square feet and 15 operating rooms went through permitting and construction in 44 months! Together OSHPD, UCI, Hensel Phelps, HOK and the entire Design Build Team made history. Many “Thanks” OSHPD!

*** HOK | Hellmuth, Obata and Kassabaum Architects.** HOK (formerly Hellmuth, Obata + Kassabaum) is a global architecture, interiors, engineering, planning and consulting firm. HOK is the largest U.S.-based architecture-engineering firm[1] and the world’s fourth-largest architectural firm[2]. HOK is also the country’s leading design firm in terms of non-U.S. fee growth[3] and the second-largest interior design firm.

**** HP | Hensel Phelps Construction Company.** Hensel Phelps is consistently ranked among the top general contractors and construction managers in the nation by ENR (Engineering News Record). Closely directed by personnel in district offices strategically located throughout the United States, Hensel Phelps builds a diverse range of project types, including new construction and renovation of commercial office, airport, distribution and industrial, correctional, public assembly, sports, health care, educational, institutional, residential, mixed use, retail, hospitality, mass transportation, entertainment, microelectronics, research and development, and laboratory facilities. These projects have been built for both public and private clients using various delivery methods, and many have incorporated significant green building features.

Links to Seismic Safety Extension Programs can be found at:

SB 1953
<http://www.oshpd.ca.gov/fdd/sb1953/seismicext.pdf>

HAZUS
http://www.oshpd.ca.gov/fdd/Regulations/TriennialCode_Adoption_Cycle/HAZUS_Summary_Report.pdf

SB 1661
<http://www.oshpd.ca.gov/FDD/SB1661/index.html>

For more information on any of the above programs, contact:

David Byrnes
 Information Officer,
 Public Affairs
 Office of Statewide
 Health Planning and
 Development
 Phone (916) 326-3606
 E-mail: dbyrnes@oshpd.ca.gov



HOSPITAL SEISMIC SAFETY

California's Earthquake History

California has experienced major, catastrophic earthquakes in the past and will certainly experience more in the future.

These quakes occurred throughout the state, not just in the more commonly perceived "earthquake zones" of Los Angeles and the Bay Area.

- Geologic and archaeological evidence shows a long history of major earthquakes up and down the state as well as eastward to the Sierra. Little of the state is considered "earthquake free," and the majority of the state lies within active seismic zones.
- Earthquakes worldwide have killed millions, injured and left homeless tens of thousands, and caused inestimable economic losses. History has recorded more than 3,400 deaths attributable to California's earthquakes during the last century.
- Historical records reveal that California has experienced—on average—moderately strong earthquake (M6.02 to M6.9) every two to three years.
- Members of the 1769 Gaspar de Portola expedition wrote of the earth shaking, a phenomenon that occurs to this day.
- Maps from the US and California Geological surveys show that some areas have been relatively quiet seismically in the last 90 years but were active in the previous 100 years.

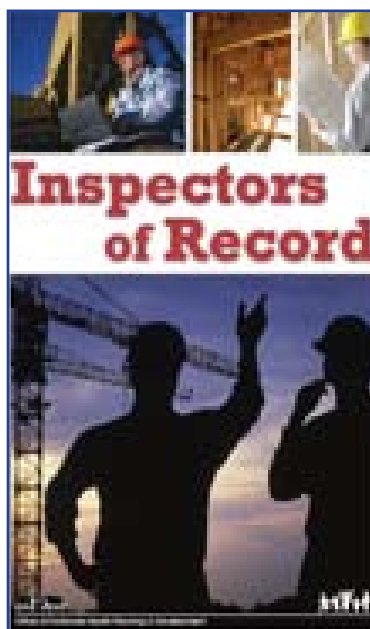
PROJECTS OF \$50,000 OR LESS – EXEMPT FROM PLAN REVIEW PROCESS

Effective January 1, 2007 the Office of Statewide Health Planning and Development (OSHPD) exempts from its plan review process certain construction or alteration projects for hospitals, skilled nursing facilities and intermediate care facilities with estimated construction costs of \$50,000 or less if specified criteria are met. The program was established pursuant to the requirements of SB 1838.

REGION	# OF SB1838 PROJECTS	# of ELIGIBLE PROJECTS UNDER \$50,000	TOTAL # of SB1838 PROJECTS under \$50,000	% of PROJECTS ELIGIBLE FOR SB1838
Central	25	160	185	15.62
Coastal	37	107	144	34.57
Mid-State	10	119	129	8.4
NLA	62	196	258	31.63
North	40	160	200	25.00
SLA	13	207	220	6.28
South	37	290	327	12.75
Totals	224	1239	1463	18.07



http://www.oshpd.ca.gov/FDD/Plan_Review/Documents/CPR_BRO.pdf



http://www.oshpd.ca.gov/FDD/Plan_Review/Documents/IOR_BRO.pdf

UPCOMING HOSPITAL BUILDING SAFETY BOARD MEETINGS

APRIL 23, 2009
MAY 19, 2009
AUGUST 19, 2009



http://www.oshpd.ca.gov/FDD/Under_50K/50K_flyer.pdf